

~~F-3-161~~ F-3-229

Buildings 1303 and 1304

Fort Detrick

Frederick, Frederick County, Maryland

constructed 1956

Private

CAPSULE SUMMARY

Buildings 1303 and 1304 are two elements of a greenhouse and laboratory complex located near the northern boundary of Ft. Detrick, Frederick County, Maryland. The two buildings are identical in size, construction materials, and detailing. Each building is a gable-roofed greenhouse measuring approximately 34 by 100 feet. Glass-covered segues connect Buildings 1303 and 1304 with other greenhouses of the complex and with Building 1302. Each building is constructed with concrete floors, concrete masonry unit knee walls, and metal-framed and glazed roofs and upper walls. Wood, nine-light doors provide access to the greenhouses. The trusses and wall frames are composed of extruded, structural shapes of aluminum-alloy composition. The individual structural elements are held together with bolted gusset plates.

Research conducted at Fort Detrick was designed to support an industrial process and utilized equipment and hardware associated with the production of biological cultures. The buildings that housed that equipment served as a shell within which research took place. The biological weapons research buildings at Fort Detrick possessed unique plans, configuration of laboratory spaces, hardware and equipment, safety rooms, and sophisticated ventilation and air handling equipment. When constructed, Buildings 1303 and 1304 provided plant material for researchers working in laboratory Buildings 1301 and 1302. Fort Detrick researchers explored all facets of biological combat including the potential for crop and livestock targets. Offensive agents formulated specifically to affect food production led to the hybridization of crops with increased resistance to such plant diseases as wheat stem rust, corn smut, and bean blight. Scientists developed partial vaccines against approximately 50 percent of the diseases affecting animals during the 1950s. Researchers continued to develop disease-resistant crops well into the 1980s, although the focus shifted from defense against biological attack to increased productivity.

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1. Name of Property

(indicate preferred name) Buildings 1303 & 1304

historic Buildings 1303 & 1304

other

2. Location

street and number _____ not for publication

city, town	Fort Detrick	<u>X</u>	vicinity
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county	Frederick
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3. Owner of Property

(give names and mailing addresses of all owners)

name	U.S. Army Garrison
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street and number	810 Schreider Street	telephone	301.619.2033
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city, town	Fort Detrick	state	MD	zip code	21702-5000
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4. Location of Legal Description

courthouse, registry of deeds, etc.	NA	liber	NA	folio	NA
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city, town	NA	tax map	NA	tax parcel	NA	tax ID number	NA
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5. Primary Location of Additional Data

☐ Contributing Resource in National Register District
☐ Contributing Resource in Local Historic District
☒ Determined Eligible for the National Register/Maryland Register
☐ Determined Ineligible for the National Register/Maryland Register
☐ Recorded by HABS/HAER
☐ Historic Structure Report or Research Report at MHT
☒ Other: Ft. Detrick ICRMP

6. Classification

Category	Ownership	Current Function		Resource Count	
_____ district	<u> X </u> public	_____ agriculture	_____ landscape	Contributing	Noncontributing
<u> X </u> building(s)	_____ private	_____ commerce/trade	_____ recreation/culture	<u> 2 </u>	_____ buildings
_____ structure	<u> </u> both	<u> X </u> defense	_____ religion	_____	_____ sites
_____ site		_____ domestic	_____ social	_____	_____ structures
_____ object		_____ education	_____ transportation	_____	_____ objects
		_____ funerary	_____ work in progress	<u> 2 </u>	_____ Total
		_____ government	_____ unknown		
		_____ health care	_____ vacant/not in use		
		_____ industry	_____ other:		
				Number of Contributing Resources previously listed in the Inventory	
				0	

7. Description

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Condition

<input type="checkbox"/> excellent	<input type="checkbox"/> deteriorated
<input checked="" type="checkbox"/> good	<input type="checkbox"/> ruins
<input type="checkbox"/> fair	<input type="checkbox"/> altered

Prepare both a one paragraph summary and a comprehensive description of the resource and its various elements as it exists today.

Buildings 1303 and 1304 are two elements of a greenhouse and laboratory complex located near the northern boundary of Ft. Detrick, Frederick County, Maryland. The two buildings are identical in size, construction materials, and detailing. Each building is a gable-roofed greenhouse measuring approximately 34 by 100 feet. Glass-covered segues connect Buildings 1303 and 1034 with other greenhouses of the complex and with Building 1302. Each building is constructed with concrete floors, concrete masonry unit knee walls, and metal-framed and glazed roofs and upper walls. Wood, nine-light doors provide access to the greenhouses. The trusses and wall frames are composed of extruded, structural shapes of aluminum-alloy composition. The individual structural elements are held together with bolted gusset plates (Figure 1). The transition from concrete masonry unit to glazed wall creates a narrow water table covered with terne metal. Portions of the wall glazing are hinged to provide ventilation and the ridge is also lined with thermostatically controlled vents (Figure 2). Additional ventilation is provided by exhaust fans along the longitudinal walls. A sectional, overhead door has been inserted into the north wall of Building 1303.

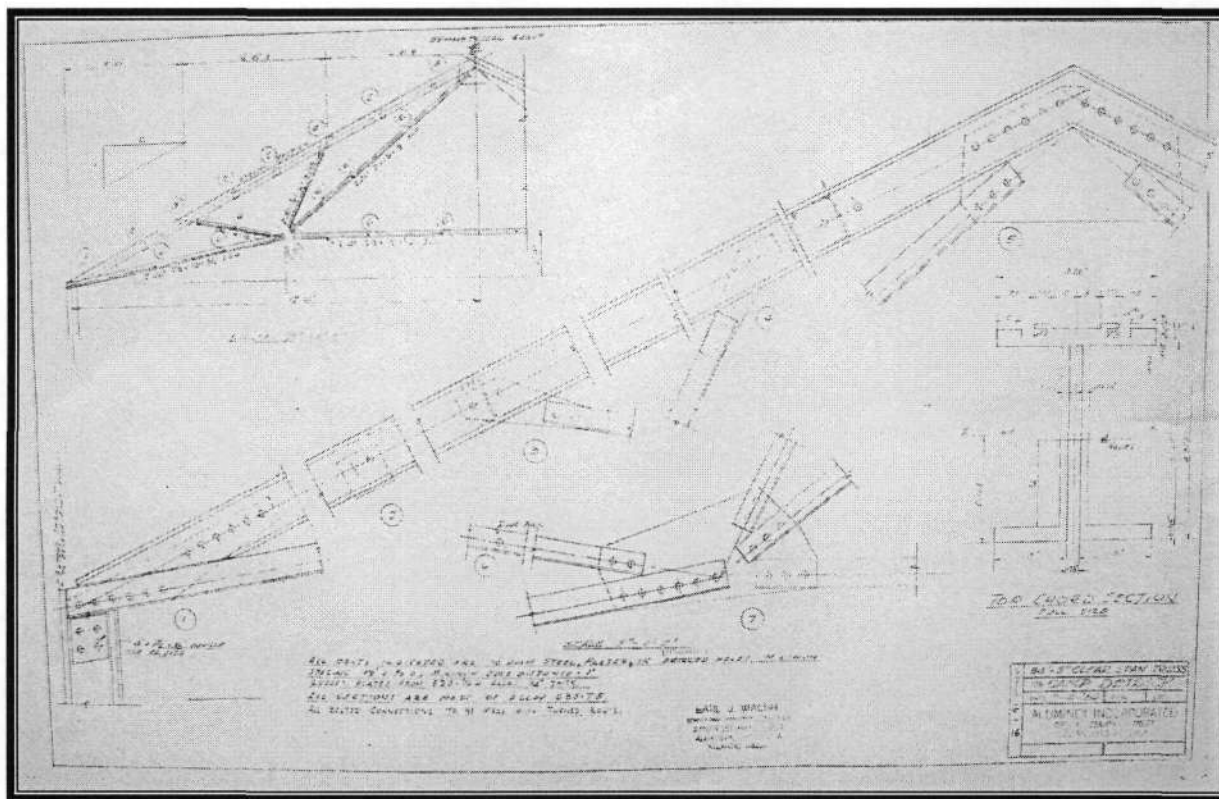


Figure 1. Structural details of roof trusses (Fort Detrick Archival Collection 1954).

The interior of each greenhouse contains numerous benches for plant propagation. Overhead piping carries hot water to forced-air fan units, and a second piping system distributes irrigation water. Modern conduit attached to the roof trusses carries electric service. High-intensity, sodium lamps provide an additional light source, and are

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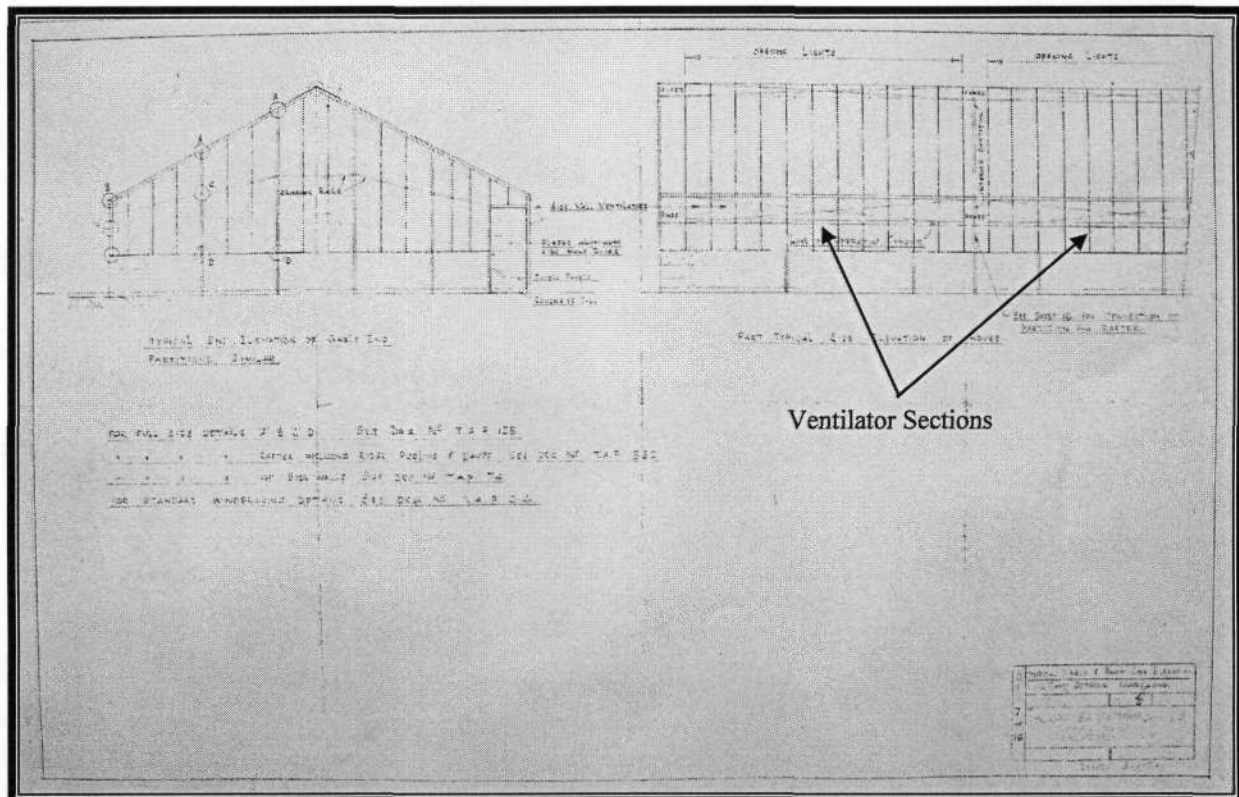
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Figure 2. Elevations of greenhouses showing locations of ventilators (Fort Detrick Archival Collection 1954).

regularly spaced throughout the buildings. Both buildings are divided into four rooms with aluminum-framed, glass-walled partitions.

The greenhouses were designed by Aluminex Incorporated in July of 1954 (Fort Detrick Archival Collection 1954). Notations on drawings held by Ft. Detrick indicate that the facilities engineer approved the design in October of that year, and the greenhouses were completed in 1956. Although the designer of the buildings is unknown, Earl J. Walsh of Alhambra, California served as consulting structural engineer. Modifications to the buildings include the construction of Building 1315 to the west of Building 1303 in 1965 (Figure 3). Building 1315 connects to Buildings 1303 and 1304 through the glass passageways. Additional modifications took place in 1966 with the installation of thermostatically controlled mechanisms to open the ridgeline ventilators. This change required moderate alterations to the original ventilation system.

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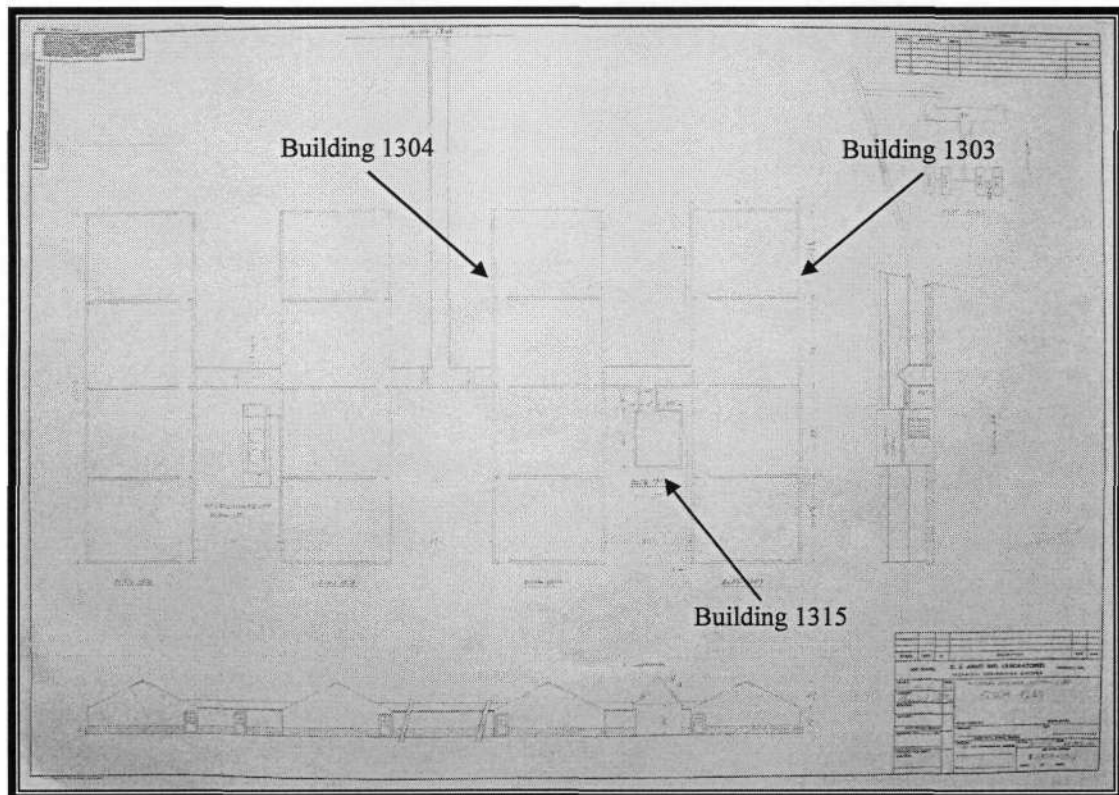


Figure 3. Plot showing location of Building 1315 (Fort Detrick Archival Collection 1965).

8. Significance

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Period	Areas of Significance	Check and justify below			
<input type="checkbox"/> 1600-1699	<input type="checkbox"/> agriculture	<input type="checkbox"/> economics	<input type="checkbox"/> health/medicine	<input type="checkbox"/> performing arts	
<input type="checkbox"/> 1700-1799	<input type="checkbox"/> archeology	<input type="checkbox"/> education	<input type="checkbox"/> industry	<input type="checkbox"/> philosophy	
<input type="checkbox"/> 1800-1899	<input type="checkbox"/> architecture	<input type="checkbox"/> engineering	<input type="checkbox"/> invention	<input type="checkbox"/> politics/government	
<input checked="" type="checkbox"/> 1900-1999	<input type="checkbox"/> art	<input type="checkbox"/> entertainment/	<input type="checkbox"/> landscape architecture	<input type="checkbox"/> religion	
<input type="checkbox"/> 2000-	<input type="checkbox"/> commerce	<input type="checkbox"/> recreation	<input type="checkbox"/> law	<input type="checkbox"/> science	
	<input type="checkbox"/> communications	<input type="checkbox"/> ethnic heritage	<input type="checkbox"/> literature	<input type="checkbox"/> social history	
	<input type="checkbox"/> community planning	<input type="checkbox"/> exploration/	<input type="checkbox"/> maritime history	<input type="checkbox"/> transportation	
	<input type="checkbox"/> conservation	<input type="checkbox"/> settlement	<input checked="" type="checkbox"/> military	<input type="checkbox"/> other: _____	

Specific dates

Architect/Builder

Aluminex Incorporated

Construction dates 1956

Evaluation for:

☒ National Register☐ Maryland Register☐ not evaluated

Prepare a one-paragraph summary statement of significance addressing applicable criteria, followed by a narrative discussion of the history of the resource and its context. (For compliance projects, complete evaluation on a DOE Form – see manual.)

Research conducted at Fort Detrick was designed to support an industrial process and utilized equipment and hardware associated with the production of biological cultures. The buildings that housed that equipment served as a shell within which research took place. The biological weapons research buildings at Fort Detrick possessed unique plans, configuration of laboratory spaces, hardware and equipment, safety rooms, and sophisticated ventilation and air handling equipment. Buildings 1303 and 1304 retain the characteristics of significance and integrity to merit National Register eligibility. The buildings achieve significance under Criterion A as an integral element of the Cold War Era mission at Fort Detrick and the sub-theme of crop research. When constructed, Buildings 1303 and 1304 provided plant material for researchers working in laboratory Buildings 1301 and 1302. Fort Detrick researchers explored all facets of biological combat including the potential for crop and livestock targets. Offensive agents formulated specifically to affect food production led to the hybridization of crops with increased resistance to such plant diseases as wheat stem rust, corn smut, and bean blight. Researchers continued to develop disease-resistant crops well into the 1980s, although the focus shifted from defense against biological attack to increased productivity.

Modification to the buildings has occurred, yet the buildings retain integrity of materials, design, workmanship, association, and feeling. Most importantly, the function of the buildings is identical to the original use of 1956. The Advisory Council on Historic Preservation emphasized the importance of use by stating "In most cases there should be continuity of function, and thus integrity of design and materials, and there may also be integrity of association" (Advisory Council on Historic Preservation 1991:33).

Cold War Historic Context

The Cold War 1946-1989

The Cold War era (1946-1989) generally is defined as the period between 1946, when the Soviet Union (U.S.S.R.) moved to retain territory it had liberated from Nazi Germany during World War II, and 1989, when the Berlin Wall fell. In Europe, the period was marked by a tense, hostile standoff between the Warsaw Pact countries, led by the USSR, and the North Atlantic Treaty Organization (NATO) allies led by the U.S. In Asia, the confrontational attitude erupted into "hot" wars, at times waged through surrogates, chief of which were the Korean and Vietnam conflicts. The principal role of the U.S. Army during this time was to support U.S. policies of peace through strength by maintaining ground force readiness as an alternative to strategic nuclear weapons for deterring Communist expansion (U.S. Army Environmental Center (USAEC) 1997).

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The demands of the Cold War era prompted major organizational changes in the armed forces of the United States and were accompanied by competition for limited military appropriations among the services. The era also was marked by significant changes in U.S. Army operations. Instead of relying on a small standing army and mobilizing troops as needed, Army personnel were now ready to enter combat on short notice. This meant that a large, trained standing army was maintained in constant readiness. Troops were stationed for the first time in friendly foreign nations under an allied command structure. Within the U.S., the Army maintained an active force that was prepared to deploy quickly into combat zones (USAEC 1997).

The Thematic Study and Guidelines: Identification and Evaluation of U.S. Army Cold War Era Military-Industrial Historic Properties (USAEC 1997) identified significant themes related to Army military-industrial history during the Cold War. Of these, the most relevant to Fort Detrick are: basic research (laboratories); materiel development and testing (research, development, engineering centers and proving grounds); and Army medical activities.

The newly defined requirements of the Cold War ushered in a new era in Frederick County after World War II. The expansion of Fort Detrick's physical plant and its mission provided new jobs, and many persons involved with the facility remained in Frederick, thereby stimulating the county's economy (Whitmore and Cannon 1981:101). During the Cold War, Fort Detrick became a permanent installation involved in peacetime biological research and development and active in the areas of basic research, material development and testing, education, and medical activities.

Chemical and Bioweapon Development 1946-1968.

As Cold War hostilities intensified, interest in the development of chemical and biological agents increased and research areas at Fort Detrick expanded. In 1946, the Army bought additional property west of Rosemont Avenue and increased the size of Area 'A' enabling expansion of biological laboratory research and development facilities (Fort Detrick Archival Collection (FDAC) Land Record Data 2004; Fort Detrick Files 1950). During this time, the military installation focused on developing biological weapons. To support the increased research effort, additional safety protocols were in place by 1946 (FDAC Copy of Press Release 1946; Department of Defense (DoD) U.S. Biological Warfare Programs, Volume I 1977:1-4).

Beginning in 1949, the biological and chemical laboratories at Fort Detrick conducted a series of vulnerability trials designed to understand the effect of biological warfare attacks on the military (DoD Exhibit D, Charles Phillips Affidavit 12/17/1979). With the beginning of the Korean War in June of 1950, the intelligence community increasingly became concerned with the defense of coastal population centers against biological warfare and increased emphasis was placed on field testing biological agents (DoD Exhibit E, William M. Creasy Affidavit May 23, 1977). Simulants such as *Bacillus globigii* and *Serratia marcescens* (SM), considered relatively harmless to humans at the time, were tested at Fort Detrick and later used by the Naval Biological Laboratories in San Francisco to study the dispersion of airborne pathogens around coastal population centers (DoD Exhibit D, Charles Phillips Affidavit 12/17/1979). Later review of the SM data revealed that this substance attacked the respiratory and urinary tracts in humans (Yu 1979:887-888).

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Fort Detrick continued to expand as a result of the heightened threat of biological warfare. In 1951, the installation annexed two additional parcels northeast and west of the main campus totaling 698 acres (398 acres in Area 'A' and 300 acres in Area 'B') (FDAC Camp Detrick Memorandum 2/5/1951). The increase in installation size was accompanied by a building boom; between 1946 and 1960, 148 new structures, ranging from biological laboratories to residential and support buildings, were constructed at the installation.

In 1951 the first anti-crop bomb was developed, tested, and placed into production for the Air Force (DoD U.S. Army Biological Warfare Programs, Volume I 1977: 3-1). Anticrop agent production sites were carefully selected for safety with the coordination and approval of the U.S. Department of Agriculture (DoD U.S. Army Biological Warfare Programs, Volume I 1977: 3-1). Between 1951 and 1953, Fort Detrick was a test site for Agent Orange, a defoliant. Research focused on studying the effects of the substance on crops such as soybeans, oats, and corn (FDAC Gilman 1953:1). A complex of buildings in Area 1300 housed the Crop Division. This division's research efforts focused on infectious diseases in crops and on developing disease resistant crop strains to increase agricultural productivity (Baker 2000: 13).

On February 1, 1952 Fort Detrick was declared a permanent Army installation. Although its primary mission continued to concentrate on research and development of biological warfare agents, the installation also conducted research into weapons and defense measures to counter biological warfare attacks (Baker 2000:12). According to the Department of the Army (DoA), research into the production of bioweapons doubled in 1952 (DoD U.S. Army Biological Warfare Programs, Volume I 1977). In 1953 Fort Detrick spent \$10 million dollars on expanding its biological laboratories and pilot plant facilities (DoD U.S. the Army Biological Warfare Programs, Volume I 1977).

During the early 1950s, researchers at Fort Detrick developed and tested biologically lethal agents, such as Tularemia and Anthrax. At that time, small quantities of the latter agent were considered safe and testing continued over an 18-month period (FDAC Army Medical Papers 1974: K-4-1). Successful experimentation with such biological agents helped to establish Fort Detrick's reputation as a scientific laboratory. On September 7, 1954, the Office of the Director of Experimental Medicine (ODEM) was established at Camp Detrick to advise the Department of Defense on projects concerning biological weapons (FDAC Fort Detrick Files 2004). Fort Detrick subsequently was reclassified as a Class III installation in 1955, and by the following year, was upgraded to a Class II installation. In 1956, the installation's permanent status was recognized when the name was changed to Fort Detrick.

The Biological Laboratory Program expanded through the late 1950s. Between 1954 and 1958, an estimated 15 million dollars were spent on the construction of laboratories and other facilities (DoD U.S. Army Biological Warfare Programs, Volume I 1977: Chapter 4). The Biological Laboratory Program at Fort Detrick peaked between 1959 and 1968, when the biological weapons program expanded to include biological agent research (FDAC U.S. Army Biological Laboratory Organization Manual 1960). By 1960, the mission of the U.S. Army Chemical Corps Biological Laboratories was to conduct chemical research and develop offensive and defensive biological warfare systems and agents (FDAC U.S. Army Biological Laboratory Organization Manual 1960).

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Open-air testing that had begun in 1950 continued in a number of cities through the 1960s (FDAC U.S. Senate Subcommittee Hearing Report May 23, 1977) and several vaccines were tested between 1959 and 1974 (DoD U.S. Biological Warfare Programs, Volume I 1977). Basic and applied research in this area included: specialized laboratory work in physical and mathematical sciences, as well as medical research into infectious diseases related to biological weapons, protective measures against biological weapons, development of biological weapons processes, research on biological and chemical anticrop agents, production of laboratory animals, and evaluation of genetic mutations (FDAC U.S. Army Biological Laboratory Organization Manual 1960).

In 1960 Fort Detrick was re-designated as the U.S. Army Chemical Corps, Biological Laboratories, and by March 1963, the U.S. Army Biological Laboratories were reorganized. Its research focus included medical bacteriology, virus and rickets, physical science, aerobiology, and entomology; crop research was undertaken under the Division of Biological Research (FDAC Fort Detrick Files March 1963). The Post Commander supervised the divisions of biological research, development, engineering services, materiel, medical research, and technical services.

The Decline of the Biological Laboratory Program at Fort Detrick (1969-1989).

The year 1969 marked another significant turning point in the mission and programs at Fort Detrick as the United States banned the development of bioweapons and biotoxins. This ban mandated that work cease in biological laboratories like Fort Detrick (FDAC U.S. Department of Army Manual 1977: K-4-1; 6-2; and 7-1). The number of vaccines developed at the facility decreased after 1970. Work on crop production and on the infectious diseases affecting crops was halted during the mid-1970s, when the USDA assumed these functions (Baker 2000:13).

Program and mission changes impacted significantly the built environment at Fort Detrick. A percentage of the buildings were reclassified and evacuated beginning in 1971 and chemical disposal undertaken (FDAC Memorandum on pilot plant and building evaluation 10/22/71; DoD U.S. Biological Warfare Programs, Volume I 1977: L-11). Buildings were categorized into one of five classifications. Category 1 buildings were identified as National Cancer Institute (NCI) buildings; Category 2 buildings were placed "on hold" for the Department of Defense or the NCI. Category 3 buildings were closed and mothballed, while Category 4 buildings were transferred within the organization or torn down. Category 5 buildings were identified as having potential residual hazardous materials and were slated for removal from the DoD inventory (FDAC Memorandum on pilot plant and building evaluation 10/22/71).

Under a new presidential directive in 1976, Fort Detrick's mission once again was redirected towards new programs and missions. Army offices were relocated, and the focus of research changed from defense to medical research. The change was prompted by the Senate subcommittee investigations of Fort Detrick's development and the use of specific chemicals, of which had been tested using aerosols in San Francisco and Alabama (Yu 1979:887-889; FDAC House Subcommittee Report #94-1222 6/8/76). One immediate result was that buildings that once had housed these chemicals were tested for potential re-use based on levels of contamination (DoD U.S. Biological Warfare Programs, Volume I 1977, FDAC February 1977:7-1 through 7-10).

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The Presidential directive lead to reorganization of the installation. Fort Detrick was formally transferred (realigned) from the Army Materiel Command to the Office of the Army Surgeon (DoD U.S. Army Biological Warfare Programs, Volume I 1977: 7-3); activities at the installation were consolidated and the status and use of the buildings at Fort Detrick again were reassessed. The consolidation affected both the uses of specific buildings on the Fort Detrick Campus and local employment. Twenty-two thousand jobs were cut by April 2, 1976. The National Cancer Institute (NCI) had operated since 1972 as part of the National Institutes of Health (NIH) for the purposes of research, disease diagnosis, and prevention (FDAC Fort Detrick Realignment Report 1977). The National Cancer Institute moved to Fort Detrick in 1973. The U.S. Army Garrison currently oversees 1,143 acres of the installation with the National Cancer Institute Frederick controlling the remaining 69 acres. In addition, Area 'B' was closed off because it contained contaminants (FDAC *The Morning Herald*, July 1976).

The Biological Weapons and Anti-terrorism Act of 1989 affected programs at the Fort Detrick facility. This law prohibited the development, production, and stockpiling of bacteriological (biological) and toxic weapons by prohibiting certain conduct related to biological weapons (FDAC United States Congress House, Committee on the Judiciary, Subcommittee on Immigration, Refugees, and International Law 1990). Subsequently, during the Post-Cold war period, many of the buildings at Fort Detrick were used for agricultural, medical and communications purposes. The USDA's agricultural programs occupied the greenhouses and laboratories of the 1300 area for its foreign disease-weed science research that targeted foreign plant pathogens and development of disease resistant strains. The role of the NCI at Frederick was broadened to include conducting research to find cures for cancer, Acquired-Immune Deficiency Syndrome (AIDS), and related diseases. The U.S. Army Medical Research Institute of Infectious Diseases (USAMRIID) conducted biological defense research to develop strategies and products and training on biological agents and naturally occurring infectious diseases of military importance.

Cold War Era Themes at Fort Detrick

The Cold War historic context identified several themes related to Fort Detrick. Materiel Development (research, development, and engineering centers and proving grounds) is reflected in the laboratories dedicated to biological warfare research. The theme of Basic Scientific Research (laboratories) applies to research activities at Fort Detrick following the end of its biological weapons research mission. A third theme is that of Command, Control, Communications, Computers, and Intelligence Functions. The antennae arrays and communications facilities of the 1st Satellite Control Battalion are representative property types of this theme. Army Medical Facilities constitute an important Cold War resource when not related to normal base operations. The U.S. Army Medical Research Institute of Infectious Diseases develops medical defenses against both biological weapons and naturally occurring infectious diseases. Troop and Employee Support is a final theme reflected in the buildings at Fort Detrick. Within this general category, the property type of Capehart housing is evidenced by the 32 buildings at Fort Detrick.

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Construction During the Cold War Era

Fort Detrick Real Property Records document that construction during the period coincided with changes to the mission and changes in the research program. Development at the installation by decade included 127 buildings in the 1950s, 33 buildings constructed in the 1960s, 11 buildings constructed in the 1970s, and 21 buildings that reflect the role of Fort Detrick as a medical research facility during the 1980s (FDAC Fort Detrick Building Inventory 2004).

Buildings constructed at Fort Detrick included pilot plants, research laboratories, administration buildings, barracks, Capehart family housing, personnel support, storage, and utilities.

Theme	1950s	1960s	1970s	1980s	Total by Theme
Materiel Development	22	2		1	25
Basic Scientific Research	1				1
Command, Control, Communications, Computers, and Intelligence Functions		2	4	4	10
Army Medical Facilities			1		1
Troop and Employee Support	72	29	6	16	123
Capehart Housing	32				32
Total by Decade	127	33	11	21	192

Cold War Era Cold buildings at Fort Detrick fall into 15 functional categories, including those associated with bioweapons research and testing, base housing, storage, administration, support, medical research, communications, utilities, and infrastructure. The property type most closely related to the primary mission of Fort Detrick are laboratories designed and constructed to house the industrial processes involved in biological weapons research, the production of biological cultures, and research into systems for bioweapons delivery.

Research at Fort Detrick followed two parallel programs. The first focused on biological weapons as an offensive tool; the second dealt with defensive methods, such as vaccines or anti-toxins, to respond to biological attack. Research into the offensive use of biological weapons included the development of new or more virulent strains of biological agent and the design of prototypical production facilities to manufacture the agent in sufficient quantities and purity for practical use. Associated research addressed the most efficient way to deliver biological

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weapons. The effectiveness of any biological agent relies on dispersing the toxin and controlling its movement. Aerosol test chambers were used to examine methods of transforming liquid or solid cultures into dispersed vapors. Experimentation into various munitions and aerial applications required carefully controlled atmospheric testing and the production of simulants—non-lethal compounds possessing similar chemical and absorptive characteristics as the weapons-grade agent. This research proved the viability of rapid, and covert, release of airborne pathogens in densely populated areas. These findings prompted military and civilian health organizations to increase efforts to develop antitoxins and other defensive measures for the agents under study at Fort Detrick.

Fort Detrick researchers explored all facets of biological combat. Research also explored the potential for crop and livestock targets. Offensive agents formulated specifically to affect food production led to the hybridization of crops with increased resistance to such plant diseases as wheat stem rust, corn smut, and bean blight. Scientists developed partial vaccines against approximately 50 percent of the diseases affecting animals during the 1950s. Researchers continued to develop disease-resistant crops well into the 1980s, although the focus shifted from defense against biological attack to increased productivity.

The research mission of Fort Detrick, focusing on the development of lethal biotoxins, required specialized buildings for the sterilization of laboratory equipment and byproducts. Autoclaves could process small items such as glassware, but the nature and scale of Fort Detrick's mission imposed stringent sanitation measures on all facets of operation. Air exhausted from laboratory areas passed through specialized incinerators and liquid waste from sinks and benches was conveyed to a dedicated waste treatment plant with the capacity to sterilize massive volumes of effluent. Although these facilities fall technically into the category of utilities, the specialized function of the industrial process creates an unbreakable nexus to the laboratory itself. Fort Detrick could not have completed its Cold War mission without these processes. The engineering effectiveness of these waste treatment facilities is illustrated by Fort Detrick's record of never having a release of toxic material.

Buildings constructed to house the various research laboratories vary dramatically in design. Some feature unique designs for laboratory spaces while others represent standardized plans site-modified for research purposes. Construction materials range from single-story, wood frame buildings supported by concrete masonry unit foundations to multi-story steel and masonry laboratory buildings. Ornamentation is rarely integrated on any building and the emphasis on function and cost efficiency is expressed in the simplicity of the designs and the straightforward construction. The research mission of Fort Detrick is physically manifested in the buildings by large ventilation and air purification systems housed on the roofs and walls of laboratory and munitions handling buildings. Constantly evolving scientific methods impacted the buildings and landscape of Fort Detrick. Addition and modification of existing laboratory buildings was common and new structures occupy areas between older buildings. The resulting landscape is complex with post Cold War, modular office buildings interspersed with laboratory buildings dating from the 1960s and 1970s.

The majority of the Cold War Era buildings currently under garrison control at Fort Detrick represent operational support functions. Storage, residential, administrative, utility, and other ancillary buildings dot the landscape. In general, these follow design trends similar to that seen in research structures: common building materials and methods, lack of ornamentation, emphasis on speed of erection and cost-efficiency. These buildings include

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commissaries and base housing, exchanges, garages, storehouses, barracks, laundries, recreational facilities, and utilities (USAEC 1997: 111-112). Broadly categorized as base operations (BASOPS), these resources do not satisfy the requirements of the military-industrial thematic study. These buildings are not directly related to important Cold War activities at Fort Detrick.

9. Major Bibliographical References

Inventory No. F-3-161

Advisory Council on Historic Preservation

1991 *Balancing Historic Preservation Needs with the Operation of Highly Technical or Scientific Facilities*. Washington, D.C.

Baker, Mark

2000 *Integrated Cultural Resource Management Plan Fort Detrick, Maryland*, Volumes 1 and 2. Prepared by the U.S. Army Corps of Engineers, Baltimore District, Planning Division, Baltimore, Maryland. Report prepared for the Directorate of Prevention, Protection and Community Activities, Fort Detrick, Frederick, Maryland.

Fort Detrick Archival Collection

1946-1990 *Fort Detrick Paper Files on the Cold War*. Fort Detrick Archival Collection, Fort Detrick Military Base, Frederick, Maryland.

1951-1953 *Fort Detrick Paper Files, report on the use of Agent Orange during the Cold War*. Box #470, Fort Detrick Archival Collection, Fort Detrick Military Base, Frederick, Maryland.

1951 Detrick Plat. Land Records. Fort Detrick Archival Collection, Fort Detrick Military Base, Frederick, Maryland.

1954 Construction drawings for Buildings 1303-1306. Fort Detrick Archival Collection, Fort Detrick Military Base, Frederick, Maryland.

1960 U.S. Chemical Corps Biological Laboratories. Change No. 4, September 1960. Fort Detrick Archival Collection, Fort Detrick Military Base, Frederick, Maryland.

1965 Construction drawings for modifications to ventilation system, Buildings 1303-1306. Fort Detrick Archival Collection, Fort Detrick Military Base, Frederick, Maryland.

1966 Floor plans of Buildings 1303-1306 showing location of proposed Building 1315. Fort Detrick Archival Collection, Fort Detrick Military Base, Frederick, Maryland.

1970 *Memorandum on Candidate Army Realignment*. Fort Detrick Military Base, Frederick, Maryland.

1971 *Memorandum on Building Use and Building Closures*. February 5, 1971. Fort Detrick Archival Collection, Fort Detrick Military Base, Frederick, Maryland.

1971 Fort Detrick Meeting Minutes October 9, 1971. Fort Detrick Archival Collection, Fort Detrick Military Base, Frederick, Maryland.

1971 Fort Detrick Memorandum on building closure, October 22, 1971. Fort Detrick Archival Collection, Box 470, Fort Detrick Military Base, Frederick, Maryland.

1973 Ad-Hoc Committee on the Testing at Fort Detrick. Fort Detrick Archival Collection, Fort Detrick Military Base, Frederick, Maryland.

1976 Memorandum to Consolidate the Fort Detrick Installation. Fort Detrick Archival Collection, Fort Detrick Military Base, Frederick, Maryland.

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n.d. Fort Detrick Military Installation Map. Fort Detrick Archival Collection, Fort Detrick Military Base, Frederick, Maryland.

U.S. Army Environmental Center

1997 *Thematic Study and Guidelines: Identification and Evaluation of U.S. Army Cold War Era Military-Industrial Historic Properties.* U.S. Army Environmental Center, Aberdeen Proving Ground, Maryland.

U.S. Department of Defense

1976 *Closure of Military Bases Worldwide.* U.S. Department of Defense, Washington, D.C.

1977 *U.S. Army Activity in the U.S. Biological Warfare Programs, Volume I.* U.S. Department of the Army, Washington.

1977 *Information for Members of Congress: U.S. Army Activities in the U.S. Biological Warfare (BW) Program.* U.S. Department of the Army, Office of the Secretary of the Army, Washington.

1977 *Biological Testing Involving Human Subjects by the Department of Defense 1977.* Prepared for U.S. Senate Subcommittee on Health and Scientific Research of the Committee of Human Resources, Washington.

1977 *Exhibit E: Affidavit of William M. Creasy, Civil No. C-78-1713-SC.* Hearings (May 23, 1977), Senate Subcommittee on Health and Scientific Research, Washington.

1979 *Exhibit D: Affidavit of Charles R. Phillips, Civil No. C-78-1713-SC.* Archives, Frederick County Court, Frederick.

1997 *Army Regulation 200-4: Director of Environmental Programs: Cultural Resources Management.* U.S. Department of the Army, Washington.

1997 *Pamphlet 2004: Director of Environmental Programs: Cultural Resources Management.* U.S. Department of the Army, Washington.

n.d. *Thematic Study and Guidelines: Identification and Evaluation of U.S. Army Cold War Era Military-Industrial Historic Properties.* U.S. Army Environmental Center, Aberdeen Proving Center, Maryland.

Whitmore, Nancy F., and Timothy L. Cannon

1981 *Frederick: A Pictorial History.* Donning Company, Norfolk.

Maryland Historical Trust
Maryland Inventory of
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Name
Continuation Sheet

Number 9 Page 2

Yu, Victor L.

1977 Special Articles: Serratia Marcescens Historical Perspective and Clinical Review. The Division of Infectious Diseases, Department of Medicine, University of Pittsburgh School of Medicine and Veterans Administration Medical Center, Pittsburgh.

10. Geographical Data

F-3-229

Acreage of surveyed property <1
Acreage of historical setting <1
Quadrangle name Frederick

Quadrangle scale: 1:24000

Verbal boundary description and justification

The significance of Fort Detrick lies in its research and scientific mission; therefore, it is the buildings and structures that manifest that activity rather than the landscape in which the buildings lay. Few buildings were either physically or functionally linked; serving as both a means of controlling the experimental process without fear of contamination and to limit exposure to staff and the public in the event of an accidental release of toxic agent. The greenhouse complex was an exception to this general rule as it was physically linked to the research laboratories to allow for the movement of plant material in a climate-controlled environment. The boundary for Buildings 1303 and 1304 includes the footprint of the buildings and the associated glass-enclosed passageways that connect the greenhouses to the laboratory buildings.

11. Form Prepared by

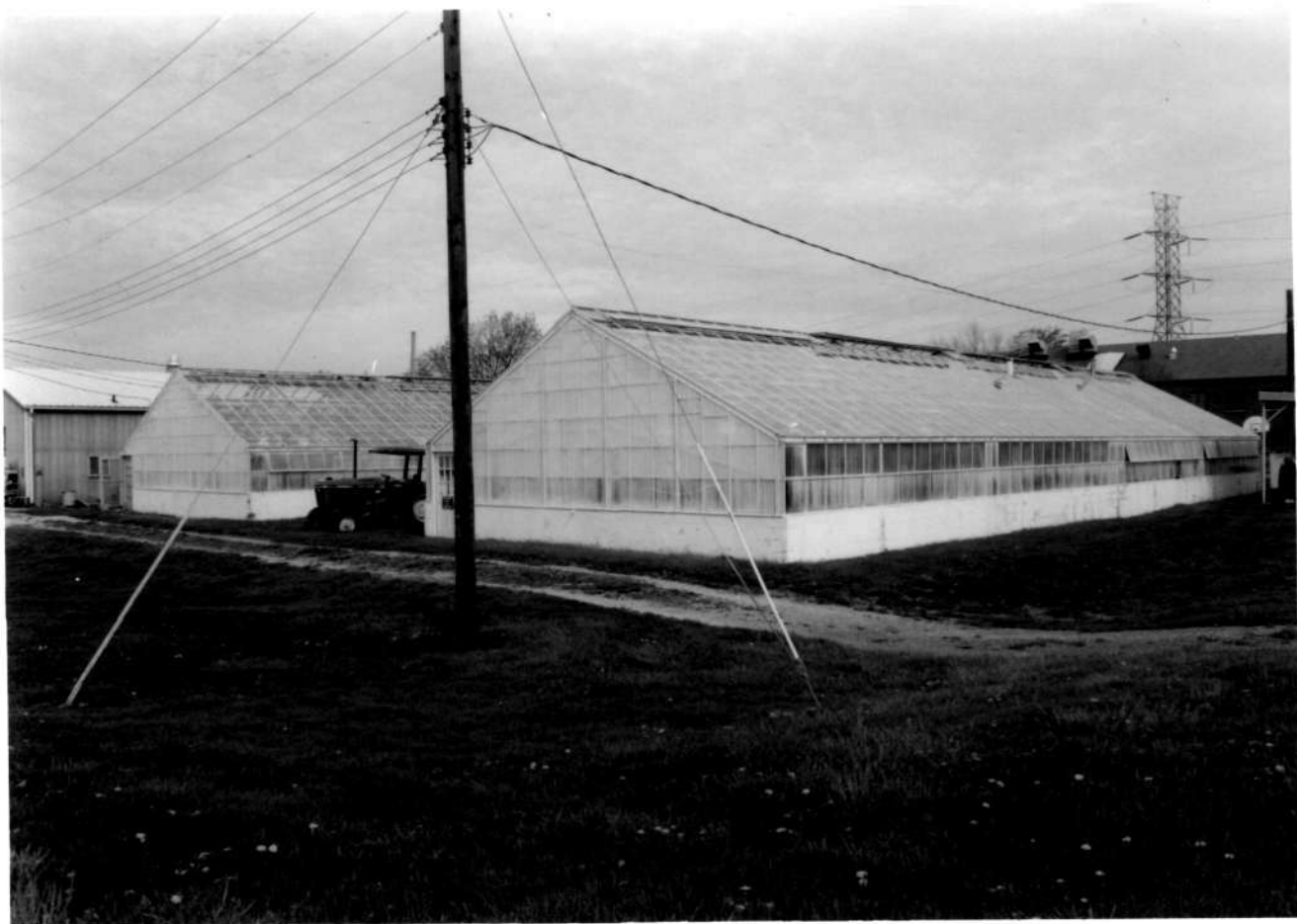
name/title	Dean A. Doerrfeld		
organization	R.C. Goodwin & Associates, Inc.	date	November 2005
street & number	241 East Fourth Street, Suite 100	telephone	301.694.0428
city or town	Frederick	state	MD

The Maryland Inventory of Historic Properties was officially created by an Act of the Maryland Legislature to be found in the Annotated Code of Maryland, Article 41, Section 181 KA, 1974 supplement.

The survey and inventory are being prepared for information and record purposes only and do not constitute any infringement of individual property rights.

return to: Maryland Historical Trust
DHCD/DHCP
100 Community Place
Crownsville, MD 21032-2023
410-514-7600

F-3-161 F-3-229
Buildings 1303 & 1304
Fort Detrick
Frederick
Frederick County
Frederick Quadrangle



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BUILDINGS 1303 & 1304

FORT DETRICK

FREDERICK COUNTY, MARYLAND

R.L. GOODWIN & ASSOC.

4 SEPTEMBER 2005

MD SHPD

SOUTH ELEVATIONS LOOKING NORTHWEST
(Bldgs. 1303 on right)

1 of 4



F-3-229

BUILDINGS 1303 & 1304

FORT DETRICK

FREDERICK COUNTY, MARYLAND

R. L. GOODWIN & ASSOC.

4 SEPTEMBER 2005

MD SHPO

NORTH ELEVATIONS LOOKING SOUTHEAST
(Bldgs. 1303 on left)

2 of 4



F-3-229

BUILDINGS 1303 & 1304

FORT DETRICK

FREDERICK COUNTY, MD

R.L. GOODWIN & ASSOC.

4 SEPTEMBER 2005

MD SHPO

INTERIOR BUILDING 1303 Looking South

3 of 4



F-3-229

BUILDINGS 1303 & 1304

FORT DETRICK

FREDERICK COUNTY, MARYLAND

R.L. GOODWIN & ASSOC.

4 September 2005

MD SHPD

INTERIOR BUILDING 1304 Looking North

4 of 4